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09/524,666	03/13/2000	John G. Aceti	SMI-13459pA	6745

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EXAMINER	
DABNEY, PHYLESHA LARVINIA	
ART UNIT	PAPER NUMBER
2643	18

DATE MAILED: 11/01/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

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Office Action Summary

Application No.

09/524,666

Applicant(s)

ACETI ET AL

Examiner

Phylesha L Dabney

Art Unit

2643

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on 02 August 2002.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☐ Claim(s) 1-57 is/are pending in the application.
- 4a) Of the above claim(s) 40,43,45 and 49 is/are withdrawn from consideration.
- 5) ☐ Claim(s) 48 and 50-54 is/are allowed.
- 6) ☐ Claim(s) 1-39,41,42,44 and 47 is/are rejected.
- 7) ☐ Claim(s) 46 is/are objected to.
- 8) ☐ Claim(s) 66 are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 14.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

DETAILED ACTION

This action is in response to the amendment received 2 August 2002 in which claims 1-39, 41-42, 44, 46-48, 50-57. Applicant's arguments have been fully considered but they are not persuasive.

Claim Objections

1. Claim 23 is objected to under 37 CFR 1.75 as being a substantial duplicate of claim 22. When two claims in an application are duplicates or else are so close in content that they both cover the same thing, despite a slight difference in wording, it is proper after allowing one claim to object to the other as being a substantial duplicate of the allowed claim. See MPEP § 706.03(k).

↓
Claim
cancelled.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) do not apply to the examination of this application as the application being examined was not (1) filed on or after November 29, 2000, or (2) voluntarily published under 35 U.S.C.

122(b). Therefore, this application is examined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

1. Claim 11-19, 24, and 57 are rejected under 35 U.S.C. 102(b) as being anticipated by **Voroba** (U.S. Patent No. 4,870,688).

Regarding claims 11, 13, 15, and 17-19, Voroba discloses a modular hearing aid comprising: a base unit (99, 100), an earmold (30) comprising a compliant material and a retention mechanism (20,40,50,52), and a module (70; 90,101) comprising a shell (72) and electronics (70; 60, 90).

Regarding claims 12 and 14, Voroba discloses the earmold comprises a battery (80) removable attached to the earmold.

Regarding claim 16, Voroba discloses the module (90, 101) comprises a microphone (90).

Regarding claim 24, Voroba discloses replacing a base unit of a hearing aid comprising the steps: providing a modular hearing aid (10) having a base unit (200) an earmold (30) and a module component (70); releasing a securing mechanism (50, 52, 110, 112); removing a component (70, 80, 90, or 110); discarding the component (col. 3, lines 33-45 and col. 4, lines 41-44); replacing the component (70, 80, 90, or 110); and attaching the securing mechanism (50, 52, 110, 112).

Regarding claim 57, Voroba discloses a covering for a hearing aid comprising an earmold (30), a shell (20, 40, 50, 52), a base unit (99-100), and a receiver (70).

2. Claims 44 and 47 are rejected under 35 U.S.C. 102(e) as being anticipated by **Yoe** et al (U.S. Patent No. 6,097,825).

Regarding claims 44 and 47, **Yoe** discloses a hearing aid comprising a base unit (50, 70, 90, 120) and a potting material (92a).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1, 8-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Voroba** et al (U.S. Patent No. 4,870,688); or **Weeks** (U.S. Patent No. 5,748,743), in view of **Juneau** et al (U.S. Patent No. 6,434,248).

Regarding claim 1, **Voroba**, or **Weeks** teaches a in the ear hearing aid comprising a base unit (99-100, **Voroba**; 1, **Weeks**), and an earmold (30; 10;) comprising a compliant material made of short life material, as understood from the applicant's specification (page 3 lines 22-25) where he states that the material is made of soft and flexible material, and a retention mechanism (20,40,50,52; col. 3 lines 34-35). Neither **Voroba** nor **Weeks** teaches the earmold having a shorter life than the base unit. More specifically, neither **Voroba** nor **Weeks** teaches the type of material used to form the base unit. **Juneau** teaches a base unit (faceplate, col. 1 lines 27-35) made of rigid material, which would have a longer life (applicant's specification, page 2 lines 4-7) for protecting electronic components. Therefore, it would have been obvious to one of

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ordinary skill in the art at the time the invention was made to construct the base unit of Voroba or Weeks using a rigid material as taught by Juneau for durability and long life. Furthermore, Voroba teaches modular hearing aids having an earmold cut apart for replacing defective components (col. 3 lines 33 through col. 4 line 38). Since the earmold must be cut apart for servicing, it is conceivable that the earmold would need to be replaced to house the new components and to maintain a comfortable fit within the user's ear. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made that the earmold of the combination of Voroba or Weeks, and Juneau would need to be replaced in view of the additional teachings in Voroba for providing comfort to the user.

Regarding claim 8, the combination of Voroba or Weeks, and Juneau teaches the earmold forms an earmold tip (see figures).

Regarding claim 9, the combination of Voroba or Weeks, and Juneau teaches the earmold forms an earmold sleeve.

Regarding claim 10, the combination of Voroba or Weeks, and Juneau teaches the earmold forms an earmold tip and sleeve.

4. Claims 1-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Diethelm** (U.S. Patent No. 3,852,540), in view of **Voroba et al** (U.S. Patent No. 4,870,688), and in further view of **Juneau et al** (U.S. Patent No. 6,434,248).

Regarding claims 1-2, 6, and 8-10, Diethelm teaches a base unit (2), an earmold (1, 3) removable attached to the base unit, a retention mechanism (col. 3 lines 13-34), and the earmold comprising a battery (7, 8). Diethelm does not teach the type of material used for the earmold;

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however, it is known in the art, as evidenced by Voroba (30), to use soft, malleable, compliant material for the earmold to facilitate comfort to the user. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to make the shell of Diethelm from a soft, malleable, compliant material to facilitate comfort to the user. Neither Diethelm nor Voroba teaches the earmold having a shorter life than the base unit. More specifically, neither Diethelm nor Voroba teaches the type of material used to form the base unit. Juneau teaches a base unit (faceplate, col. 1 lines 27-35) made of rigid material, which would have a longer life (applicant's specification, page 2 lines 4-7). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to construct the base unit of the combination of Diethelm and Voroba using a rigid material as taught by Juneau for durability and long life. Furthermore, Voroba teaches modular hearing aids having an earmold cut apart for replacing defective components (col. 3 lines 33 through col. 4 line 38). Since the earmold must be cut apart for servicing, it is conceivable that the earmold would need to be replaced to house the new components and to maintain a comfortable fit within the user's ear. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made that the earmold of the combination of Diethelm, Voroba, and Juneau would need to be replaced in view of the additional teachings in Voroba for providing comfort to the user.

Regarding claim 3, the combination of Diethelm, Voroba, and Juneau teaches a shell integrated with the earmold (1, 3) and housing the battery (8) and a receiver (5).

Regarding claim 4, the combination of Diethelm, Voroba, and Juneau teaches a base unit (2), an earmold (1, 3) removable attached to the base unit, a retention mechanism (col. 3 lines

13-34), and the earmold comprising a battery (7, 8) and receiver (5). Diethelm does not teach the type of material used for the earmold; however, it is known in the art, as evidenced by Voroba (30), to use soft, malleable, compliant material for the earmold to facilitate comfort to the user. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to make the shell of Diethelm from a soft, malleable, compliant material to facilitate comfort to the user.

Regarding claims 5 and 7, the combination of Diethelm, Voroba, and Juneau teaches a shell integrated with the earmold (1, 3) and housing the battery (8) and a receiver (5).

5. Claims 25, and 31-35 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Voroba** (U.S. Patent No. 4,870,688) or **Diethelm** (U.S. Patent No. 3,852,540).

Regarding claims 25 and 31, Voroba or Diethelm teaches an earmold tip (Voroba, 30; Diethelm, 1, 3) comprising a vibration isolator portion (Voroba, 72; Diethelm, 1) adapted for attachment within a hearing aid, having a receiver (Voroba, 70; Diethelm, 5). Since neither Voroba nor Diethelm excludes the receiver from having a diaphragm and the Examiner takes official notice that it is well known in the art for a receiver to have vibratory elements, i.e. diaphragms, for transmitting audible sound to the user. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to include a diaphragm within the receiver of Voroba or Diethelm to transmit audible sound.

Regarding claim 32, Voroba or Diethelm teaches the hearing aid includes a base unit (Voroba, 99-100; Diethelm, 2) having a microphone Voroba, 90; Diethelm, 15).

Regarding claims 33 and 34, refer to claims 25 and 32.

Regarding claim 35, neither Voroba nor Diethelm teach using adhesive to secure the receiver to the earmold. However, the examiner takes official notice that it is extremely well known in the art to use adhesive for securely fixing the receiver to the earmold for limiting distorted audible sound. Therefore, it would have been obvious to one of ordinary skill in the art that to securely attach the receiver to the earmold to prevent distorted audible sound.

6. Claims 55 and 56 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Schroder** (U.S. Patent No. 4,736,430).

Regarding claims 55 and 56, Schroder teaches the covering comprising: an earmold (12); a shell (14, figs. 1 and 2) integrated with the earmold wherein the shell allows attachment of the hearing aid base unit (15); and a battery (22) mounted within the covering and outside the housing base unit. Schroder does not teach the type of material used to form the earmold; however, it is known in the art to use soft, flexible, and compliant to form the earmold to facilitate comfort to the user. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to use soft, flexible, compliant material to form the earmold of Schroder to facilitate comfort to the user.

7. Claims 22-23 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Voroba et al** (U.S. Patent No. 4,870,688); in view of **Schroder** (U.S. Patent No. 4,736,430).

Regarding claims 22-23, Voroba teaches replacing a base unit of a hearing aid comprising the steps: providing a modular hearing aid (10) having a base unit (200) an earmold (30) and a module component (70); releasing a securing mechanism (50, 52, 244, 246, 248);

removing the base unit (200); discarding the base unit (col. 5, lines 23-52); placing a second base unit (col. 5 lines 23-27) onto the earmold; and attaching the securing mechanism (50, 52, 110, 112). Voroba does not teach the securing mechanism capable of being released by a user without the use of a separate tool or instrument. Schroder teaches an alternate rotational connection means (col. 2 line 59 through col. 3 line 2) for securing two hearing aid modules together and making it easier to disconnect the two housings. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to include the rotational connection means in the invention of Voroba as taught by Schroder to make the two housings easier to separate.

8. Claims 20 and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Diethelm** (U.S. Patent No. 3,852,540), in view of **Voroba** (U.S. Patent No. 4,870,688), and further in view of **Baum** (U.S. Patent No. 2,487,038).

Regarding claims 20 and 21, Diethelm teaches a base unit (2), an earmold (1, 3) comprising a battery (7, 8) and receiver (5), and a retention mechanism (col. 3 lines 13-34). Diethelm does not teach the type of material used for the earmold; however, it is known in the art, as evidenced by Voroba (30), to use soft, malleable, compliant material for the earmold to facilitate comfort to the user. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to make the shell of Diethelm from a soft, malleable, compliant material to facilitate comfort to the user. Furthermore, the combination of Diethelm and Voroba does not teach the earmold having a flexible, mushroom shaped earmold tip. However, it is known in the art, as evidence by Baum (figs. 1-5), for an earmold tip to have

horizontal flanges (Knudsen; 12) for tightly sealing the auditory canal to the outside, providing comfort to the user, and for simulating a mushroom shaped tip. Therefore, it would have been obvious to one of ordinary skill in the art to include the flange(s) onto the earmold (Diethelm; 1, 3) of the combination of Diethelm and Voroba for tightly sealing the auditory canal to the outside and providing comfort to the user.

9. Claims 26-30, and 36-43 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Diethelm** (U.S. Patent No. 3,852,540), in view of **Baum** (U.S. Patent No. 2,487,038).

Regarding claims 26, 27, and 40, Diethelm does not teach the earmold having a flexible, mushroom shaped earmold tip. However, it is known in the art, as evidence by Baum (figs. 1-5), for an earmold tip to have horizontal flanges (Baum; 11) for tightly sealing the auditory canal to the outside, providing comfort to the user, and for simulating a mushroom shaped tip. Therefore, it would have been obvious to one of ordinary skill in the art to include the flange(s) onto the earmold tip (Diethelm; 1, 3) for tightly sealing the auditory canal to the outside and providing comfort to the user.

Regarding claims 28, 30, and 38, the combination of Diethelm and Baum teaches the earmold tip comprising a sound bore (Diethelm; 6, 6a, 22, 23).

Regarding claim 29, the combination of Diethelm and Baum does not teach a spring surrounding the sound bore. However, the examiner takes official notice that it is known in the art to insert springs into earmold tips to increase stiffness and control navigation of the tip along the ear canal. Therefore, it would have been obvious to one of ordinary skill in the art at the time

the invention was made to include a spring in the invention of Diethelm and Baum to increase stiffness and control navigation.

Regarding claims 36, 39, 41, refer to claims 25, 26, and 28.

Regarding claim 37, refer to claim 29.

Regarding claims 42 and 43, claims 25, 27, 34, 35, 36, 40, 41 cover the limitations of these claims.

Allowable Subject Matter

10. Claim 46 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Response to Arguments

11. In response to applicant's arguments pertaining to claims 6, 11-19, 24-25, 31, and 57: The examiner is maintaining the rejection because the receiver of the Voroba reference (col. 7 line 52 through col. 8 line 35) is only attached to the amplification module, and not part of the amplification module.

12. In response to the applicant's arguments pertaining to the combination of Diethelm and Voroba in the rejection of claims 1-10 on page 13: The examiner is maintaining the rejection because for the reasons stated directly above and the inclusion of the Juneau reference in the rejection above.

→
XIN'D
48, 50, 51-54.

13. In response to the applicant's arguments pertaining to claims 2,4 on page 14-15: The examiner is maintaining the rejection since the battery assembly, which includes the battery, and battery compartment of Diethelm is within the earmold (fig. 3).

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Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Phylesha L Dabney whose telephone number is 703-306-5415. The examiner can normally be reached on Mondays, Tuesdays, Wednesdays, Fridays 8:30-5 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Curtis Kuntz can be reached on 703-305-4708. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9314 for regular communications and 703-872-9314 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-305-4700.

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Any response to this action should be mailed to:

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(703) 872-9314, for formal communications intended for entry and for informal or draft communications, please label "Proposed" or "Draft" when submitting an informal amendment.


(703) 306-0377, for customer service questions.

Hand-delivered responses should be brought to Crystal Park II, 2121 Crystal Drive, Arlington, VA, Sixth Floor (Receptionist).

PLD



October 28, 2002



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